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BEAMER, TEMICA M	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/924,022	MCNAIR, BRUCE E.	
	Examiner	Art Unit	
	TEMICA M. BEAMER	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 November 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13,15-22 and 24-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13,15-22 and 24-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-13, 15-22 and 24-27 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3, 7, 12, 13, 15, 18, 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeburg, U.S. Patent No. 4,850,032 in view Bi et al (Bi), U.S. Patent No. 5,970,414.

Regarding claims 1, 18, 21 and 24, Freeburg discloses a method for determining the location of a mobile station (col. 1, lines 45-52), comprising: receiving at said mobile station, a plurality of simulcast signals having substantially identical information from respective base stations (col. 2, line 63-col. 3, line 6); determining relative time of arrival information for the received plurality of simulcast signals (col. 5, lines 58-65); and determining the position of the mobile station (col. 5, line 65-col. 6, line 2).

Freeburg, however, fails to disclose wherein the position of the mobile station is determined by the mobile station and wherein the position is transmitted from the mobile station to the one or more base stations.

In a similar field of endeavor, Bi discloses a method for estimating a mobile telephone's location. Bi further discloses wherein multiple base stations transmit signals to the mobile phone and wherein the mobile phone uses time of arrival estimates of the signals transmitted by the base stations for use in determining the mobile phone's position (abstract). Bi also discloses wherein the mobile phone calculates its own position using a triangulation method and transmits the position information to a base station (col. 6, line 56-col. 7, line 6).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Freeburg with the mobile phone calculating its own position as taught in Bi as such modification could possibly allow the position of the mobile to be determined faster.

Regarding claim 2, Freeburg, as modified, discloses the method according to claim 1, further including determining the relative time of arrival information using characteristics inherent in the received signal (col. 5, lines 11-35, col. 5, line 58-col. 6, line 2).

Regarding claim 3, Freeburg, as modified, discloses the method according to claim 2, wherein the inherent characteristics of the received signal include time dispersion due to simultaneous transmission of the substantially identical simulcast signals (col. 5, lines 11-35, col. 5, line 58-col. 6, line 2).

Regarding claim 7, Freeburg, as modified, discloses the method according to claim 1, further including receiving base station ID information in the respective simulcast signals (col. 6, lines 18-30).

Regarding claim 12, Freeburg, as modified, discloses the method according to claim 1, further including computing the relative time of arrival information using differential in frequency information (col. 1, lines 13-17, col. 4, lines 34-48).

Regarding claim 13, Freeburg, as modified, discloses the method according to claim 1, further including receiving a signal from a first one of the plurality of base stations to a second one of the plurality of base stations for identifying the simulcast signals from respective first and/or second ones of the plurality of base stations (col. 1, lines 45-52.

Regarding claim 15, the combination of Freeburg and Bi discloses the method according to claim 1 as described above. The combination, however, fails to disclose transmitting the mobile station position from the one or more plurality of base stations to a network server associated with the one or more plurality of base stations. The examiner contends, however, that it is known that position data can be transmitted to various parts of the cellular network and the examiner takes official notice as such.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the combination of Freeburg and Bi with transmitting the position data further to a network server in the event of an emergency.

At the time of the invention it would have been obvious to one ordinary skill in the art to modify the combination of Freeburg and Grell with the teachings of Budnik for the

purpose of allowing other entities in the system to know the location of the mobile in case of an emergency situation.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 4, 19, 22 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeburg and Bi in further view of Siwiak, U.S. Patent No. 5,537,398.

Regarding claims 4, 19, 22 and 25, Freeburg and Bi discloses the methods of claims 3, 18, 21 and 24 as described above. The combination of Freeburg and Bi, however, fails to disclose wherein the received simulcast signals having an OFDM modulation format.

In a similar field of endeavor, Siwiak discloses an apparatus for multi-rate simulcast communication. Siwiak further discloses using simulcast signals having OFDM modulation format (col. 2, lines 11-15).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the combination of Freeburg and Bi with the teachings of Siwiak for

the purpose of resisting delay dispersion experienced by simulcasting in cellular systems.

6. Claims 5 and 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Freeburg, Bi and Siwiak in further view of Stilp et al (Stilp), U.S. Patent Pub. No. 2005/0206566.

Regarding claim 5, the combination of Freeburg, Bi and Siwiak discloses the method according to claim 4 as described above. The combination, however, fails to disclose including estimating channel frequency response.

In a similar field of endeavor Stilp discloses a multiple pass location processor. Stilp further discloses estimating channel frequency response for use in a locating a mobile (0105).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the combination of Freeburg, Bi and Siwiak with the teaching of Stilp for the purpose increasing the chances of obtaining accurate TOA information for locating a mobile.

Regarding claim 6, the combination of Freeburg, Bi, Siwiak and Stilp discloses the method according to claim 5, further including transforming the channel frequency response to obtain the relative time of arrival information (Stilp, 0105).

7. Claims 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeburg and Bi in view of Watters et al (Watters), U.S. Patent No. 5,982,324.

Regarding claim 8, the combination of Freeburg and Bi discloses the method according to claim 1 as described above. The combination, however, fails to disclose further receiving GPS signals for determining the relative time of arrival information.

In a similar field of endeavor, Watters discloses combining GPS with TOA/TDOA of cellular signals to locate mobiles (col. 20, lines 14-39).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the combination of Freeburg and Grell with the teachings of Watters for the purposes of increasing the accuracy of locating the mobile.

Regarding claim 10, the combination of Freeburg and Bi discloses the method according to claim 1 as described above. The combination, however, fails to disclose further including computing a locus of points having a distance from first and second ones of the plurality of base stations that differs by a signal time of arrival difference for signals from the first and second ones of the plurality of base stations.

Watters discloses computing a locus of points having a distance from first and second ones of the plurality of base stations that differs by a signal time of arrival difference for signals from the first and second ones of the plurality of base stations (col. 20, lines 14-33).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the combination of Freeburg and Bi with the teachings of Watters for the purpose of more accurately locating the position of a mobile.

Regarding claim 11, the combination of Freeburg, Bi and Watters discloses the method according to claim 10, further including further loci of points for further pairs of base stations (Watters, col. 20, lines 19-22).

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Freeburg and Bi in further view of Baum et al (Baum), U.S. Patent No. 5,867,478.

Regarding claim 9, the combination of Freeburg and Bi discloses the method according to claim 1 as described. The combination, however, fails to disclose further including utilizing Doppler shift information associated with movement of the mobile station to determine the position of the mobile station.

Baum discloses including utilizing Doppler shift information associated with movement of the mobile station to determine the position of the mobile station (col. 17, lines 1-7).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify the combination of Freeburg and Bi to include Doppler shift for the purpose of computing an estimate of the desired the transmitted signal.

9. Claims 16 and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Freeburg and Bi in view of (Oren), U.S. Patent No. 6,725,045.

Regarding claims 16 and 17, the combination of Freeburg and Bi discloses the limitations of claim 15 as described above. The combination, however, fails to disclose

what Oren teaches further including broadcasting information associated with the mobile station's position such as location-specific advertisements (col. 4, lines 8-13).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify the combination of Freeburg and Bi to include location base advertising for the purpose of notifying mobile units of relevant information.

10. Claims 20 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeburg, Bi and Siwiak in further view of Oren.

Regarding claims 20 and 26, the combination of Freeburg, Bi and Siwiak discloses the method according to claims 18 and 24 as described above. The combination, however, fails to disclose what Oren teaches wherein the method further includes broadcasting location-specific advertisements (col. 4, lines 8-13).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify the combination of Freeburg, Bi and Siwiak with the teachings of Oren to include location base advertising for the purpose of notifying mobile units of relevant information.

11. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Freeburg and Bi in further view of Oren.

Regarding claim 27, the combination of Freeburg and Bi discloses a wireless network, comprising: a plurality of base stations for transmitting simulcast signals having

substantially identical information to mobile stations to determine the location of a mobile station (Freeburg, col. 2, line 63-col. 3, line 6) (Bi, col. 6, line 56-col. 7, line 6).

The combination of Freeburg and Bi, however, fails to disclose what Oren teaches wherein the method further includes receiving mobile station location information to broadcast location-specific information to mobile stations (col. 4, lines 8-13).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Freeburg and Bi to include location base advertising for the purpose of notifying mobile units of relevant information.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TEMICA M. BEAMER whose telephone number is (571)272-7797. The examiner can normally be reached on Monday-Thursday (alternate Fridays) 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Temica M. Beamer/
Primary Examiner, Art Unit 2617